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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,686	04/02/2004	Masae Sasano	50335-051	9775
7590	12/07/2006		EXAMINER	
McDERMOTT, WILL & EMERY 600 13th Street, N. W. Washington, DC 20005-3096			ALHIJA, SAIFA	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/815,686	SASANO ET AL.
	Examiner Saif A. Alhija	Art Unit 2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- ' Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 April 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 02 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 7/27/04.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

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**DETAILED ACTION**

1. Claims 1-5 have been presented for examination.

**PRIORITY**

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

**Information Disclosure Statement**

3. The information disclosure statement (IDS) submitted on 27 July 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner has considered the IDS as to the merits.

**Specifications**

4. A substitute specification as well as claims is required pursuant to 37 CFR 1.125(a) because the specification contains numerous objections. The last three pages of the specification contain a recitation of the claims and the specification appears to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

**Claim Objections**

5. Claims 1-5 are objected to because of the following informalities:

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- i) The claims do not comport to proper U.S. practice. For example, the claim limitations are not delineated from the preamble. Appropriate correction is required.
- ii) Claims 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 5 appears to attempt to recite an independent claim in the form of a dependent claim. Appropriate correction is required.

*Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**MPEP 2106 recites:**

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result" State Street 149 F.3d at 1373, 47 USPQ2d at 1601-02. A process that consists solely of the manipulation of an abstract idea is not concrete or tangibles. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed.Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459.

**6. Claims 1-5 are rejected** under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- i) The claims recite a method for defining classes and creating a simulation program which result in a mere manipulation of data and possibly code. The mere manipulation of data is non-statutory and as such the claims do not produce a useful, concrete, and tangible result.
- ii) Claim 5 recites a storage medium and is dependent upon claims which recite a method.

This represent a mixing of statutory classes and results in a statutory conflict.

All claims dependent upon a rejected base claim are rejected by virtue of their dependency.

Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

**The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

- i) Claims 1-5 contain the phrase "inherit character." It is unclear what is meant by this phrase and as such the claim is rendered vague and indefinite.
- ii) Claims 1-5 contain the phrase "phenomenological model." The term phenomenological is defined as "*relating to experiences; phenomenological research emphasizes the importance of how people experience and feel things.*" It is unclear how this phrase conforms to the rest of the claim and as such the claims are rendered vague and indefinite.
- iii) Claims 1-5 contain "defining an abstract class by extracting characteristics common to a plurality of similar parts....if such parts exists." It is unclear what types of characteristics are extracted from the components. It is further unclear what is extracted if the parts do not exist. As such the claims are rendered vague and indefinite.
- iv) Claims 1-5 contain the phrase "necessary types of part." It is unclear what constitutes a necessary type of part. As such the claims are rendered vague and indefinite.
- v) Claims 1-5 contain the phrase "creating a simulation program." It is unclear how the simulation program is created, if it is run, is there user interaction with the program, etc. As such the claims are rendered vague and indefinite.

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vi) The claims contain apparent means for language, by stating "by means of". This does not comport to U.S. practice, as "means for" claims are separate from method claims.

vii) The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

All claims dependent upon a rejected base claim are rejected by virtue of their dependency.

Appropriate correction is required.

**Claim Interpretation**

8. As stated in MPEP Section 2143.03. A claim limitation which is considered indefinite cannot be disregarded. If a claim is subject to more than one interpretation, at least one of which would render the claim unpatentable over the prior art, the examiner should reject the claim as indefinite under 35 U.S.C. 112, second paragraph (see MPEP § 706.03(d)) and should reject the claim over the prior art based on the interpretation of the claim that renders the prior art applicable. *Ex parte Ionescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984) (Claims on appeal were rejected on indefiniteness grounds only; the rejection was reversed and the case remanded to the examiner for consideration of pertinent prior art.). Compare *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970) (if no reasonably definite meaning can be ascribed to certain claim language, the claim is indefinite, not obvious) and *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962) (it is improper to rely on speculative assumptions regarding the meaning of a claim and then base a rejection under 35 U.S.C. 103 on these assumptions).

The claims are vague and indefinite and rise to the level of *In re Steele* however in the interests of compact prosecution the claims will be interpreted to be simulation of heat exchange utilizing refrigerants.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claim 1-5 are rejected** under 35 U.S.C. 102(b) as being clearly anticipated by **Judge et al. "A Heat Exchanger Model for Mixtures and Pure Refrigerant Cycle Simulations"** hereafter referred to as **Judge**.

10. **Claim 1-5 are rejected** under 35 U.S.C. 102(e) as being clearly anticipated by **Karanikas et al. , U.S. Patent Application 2003/0201098, "In situ recovery from a hydrocarbon containing formation using one or more simulations,** hereafter referred to as **Karanikas**.

**Regarding Claim 1:**

**The reference discloses A method of configuring a simulation program for computing amounts of heat exchanged, comprising the steps of: classifying models which represent phenomena occurring in various components of an apparatus for producing refrigeration effect by means of heat exchange between refrigerant and air into categories independent of one another; defining the resulting categories as classes; defining an abstract class by extracting characteristics common to a plurality of similar parts contained in**

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each category if these parts need to be distinguished for the purpose of calculation; providing, under the abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of part; implementing a phenomenological model of each defined class; and creating a simulation program in an object-oriented language based on the classes.

(**Judge. Page 244, Paragraph 1. Page 245, Paragraph 1. Page 246, Model Description. Page 247,**

**Tube and Fin and Air Side)**

(**Karanikas. Abstract. Paragraphs 86, 181, 889-890, 897-898, and 1357**)

(**Background of Instant Application, Pages 1-3**)

**Regarding Claim 2:**

The reference discloses A method of configuring a simulation program for computing amounts of heat exchanged, comprising the steps of: defining a compressor class, tube class, and heat exchanger class as categories among which models that represent phenomena occurring in a refrigeration system for producing refrigeration effect by means of heat exchange between refrigerant and air are independent of one another; defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each class if such parts exist; providing, under the abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of part; implementing a phenomenological model of each defined class; and creating a simulation program in an object-oriented language based on the classes.

(**Judge. Page 244, Paragraph 1. Page 245, Paragraph 1. Page 246, Model Description. Page 247,**

**Tube and Fin and Air Side)**

(**Karanikas. Abstract. Paragraphs 86, 181, 889-890, 897-898, and 1357**)

(**Background of Instant Application, Pages 1-3**)

**Regarding Claim 3:**

**The reference discloses** A method of configuring a simulation program for computing amounts of heat exchanged according to claim 2, comprising the steps of: composing the heat exchanger class by combining individual cells in a cell class; combining a tube class and fin class into the cell class as categories among which models that represent phenomena occurring in the cells are independent of one another; defining a refrigerant class for a working fluid which interacts with the tube class; defining an air class for a working fluid which interacts with the fin class; defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each of the tube class and fin class if such parts exists; defining, under each abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of part; implementing a phenomenological model of each defined class; and creating a simulation program in an object-oriented language based on the classes.

**(Judge. Page 244, Paragraph 1. Page 245, Paragraph 1. Page 246, Model Description. Page 247, Tube and Fin and Air Side)**

**(Karanikas. Abstract. Paragraphs 86, 181, 889-890, 897-898, and 1357)**

**(Background of Instant Application, Pages 1-3)**

**Regarding Claim 4:**

**The reference discloses** A method of configuring a simulation program for computing amounts of heat exchanged, comprising the steps of: composing a heat exchanger which produces refrigeration effect by means of heat exchange between refrigerant and air, by combining individual cells in a cell class; combining a tube class and fin class into the cell class as categories among which models that represent phenomena occurring in the cells are independent of one another; defining a refrigerant class for a working fluid which interacts with the tube class; defining an air class for a working fluid which

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interacts with the fin class; defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each of the tube class and fin class if such parts exists; defining, under each abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of part; implementing a phenomenological model of each defined class; and creating a simulation program in an object-oriented language based on the classes.

(**Judge. Page 244, Paragraph 1. Page 245, Paragraph 1. Page 246, Model Description. Page 247, Tube and Fin and Air Side**)

(**Karanikas. Abstract. Paragraphs 86, 181, 889-890, 897-898, and 1357**)

(**Background of Instant Application, Pages 1-3**)

**Regarding Claim 5:**

The reference discloses A storage medium containing a simulation program which makes a computer implement the functions described in any of claims 1 to 4.

(**Judge. Page 244, Paragraph 1. Page 245, Paragraph 1. Page 246, Model Description. Page 247, Tube and Fin and Air Side**)

(**Karanikas. Abstract. Paragraphs 86, 181, 889-890, 897-898, and 1357**)

(**Background of Instant Application, Pages 1-3**)

**Conclusion**

10. All Claims are rejected.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saif A. Alhija whose telephone number is (571) 272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

November 11, 2006

HUGH JONES Ph.D.  
PRIMARY PAPER EXAMINER  
TECHNOLOGY CENTER 2100  
*[Handwritten signature over the printed name]*